Source: All Sources > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility Patents 6 Terms: patno=5929466 (Edit Search)

Pat. No. 5929466, \*

## 5,929,466

## ◆ GET 1st DRAWING SHEET OF 6

Jul. 27, 1999

Semiconductor device and method of fabricating the same

REISSUE: Reissue Application filed Jul. 27, 2001 (O.G. Dec. 18, 2001) Ex. Gp.: 2815; Re.

S.N. 09/915,710

INVENTOR: Ohba, Yasuo, Yokohama, Japan

Hatano, Ako, Tokyo, Japan

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, Japan (03)

APPL-NO: 874,299

FILED: Jun. 13, 1997

FOR-PRIOR:

6-038157 Mar. 9, 1994 Japan 7-000704 Jan. 6, 1995 Japan

Continuation of Ser. No. 400,865, Mar. 8, 1995 now patented 5,656,832

INT-CL: [6] H01L 33#00; H01L 31#030.4; H01L 29#205

**US-CL:** 257#103; 257#96; 257#97; 257#190

**CL: 257** 

1 of 17

SEARCH-FLD: 257#103, 96, 97, 190

**REF-CITED:** 

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5,578,839 2-229476 4-297023 5-183189	FOREIGN PATENT DOCUMENTS  9/1990 * Japan  10/1992 * Japan  7/1993 * Japan	257#103 257#103 257#103

PRIM-EXMR: Jackson, Jr., Jerome

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

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Selected file: PLUSPAT

Search statement

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\*\* SS 2: Results 1

Search statement

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 1/1 PLUSPAT - (C) QUESTEL-ORBIT- image
 CPIM (C) Questel-Orbit
    - US5929466 A 19990727 [US5929466]
     - (A) Semiconductor device and method of fabricating the same
 PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)
     - (A) HATANO AKO (JP); OHBA YASUO (JP)
 AP - US87429997 19970613 [1997US-0874299]
     - US87429997 19970613 [1997US-0874299]
 PR
     - JP3815794 19940309 [1994JP-0038157]
     - JP70495 19950106 [1995JP-0000704]
     - US40086595 19950308 [1995US-0400865]
     - (A) H01L-029/205 H01L-031/0304 H01L-033/00
    - H01L-029/201
     - H01L-029/205
     - H01L-033/00C4D6C2
     - H01L-033/00G3B2
      - H01S-005/323B4
  ICO - T01S-005/02H2
      - T01S-005/042E
  PCL - ORIGINAL (O): 257103000; CROSS-REFERENCE (X): 257096000 257097000
       257190000
     - Corresponding document
     - US5218216; US5247533; US5523589; US5578839; JP2-229476; JP4-297023;
       JP5-183189
 STG - (A) United States patent
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- A semiconductor device comprises a single crystal substrate, a nucleus formation buffer layer formed on the single crystal substrate, and a lamination layer including a plurality of All-x-yGaxInyN (0</=x</=1, 0</=y</=1, x+y</=1) layers laminated above the nucleus formation buffer layer. The nucleus formation buffer layer is formed of All-s-tGasIntN (0</=s</=1, 0</=1, s+t</=1) and is formed on a surface of the substrate such that the nucleus formation buffer layer has a number of pinholes for control of polarity and formation of nuclei. A method of fabricating a semiconductor device comprises the steps of: forming, above an All-x-yGaxInyN (0</=x</=1, 0</=y</=1,x+y</=1) semiconductor layer doped with a p-type dopant, a cap layer for preventing evaporation of a constituent element of the semiconductor layer, the cap layer being formed of one of AlN in which a p-type dopant is added and Al2O3, subjecting the semiconductor layer to heat treatment, and removing at least a part of the cap layer.

1/1 LGST - (C) LEGSTAT PN - US 5929466 [US5929466]

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2/25/02 us 5929466 09/915710
 AP - US 874299/97 19970613 [1997US-0874299]
 DT - US-P
 ACT - 19970613 US/AE-A
       APPLICATION DATA (PATENT)
       {US 874299/97 19970613 [1997US-0874299]}
     - 19990727 US/A
       PATENT
     - 20011218 US/RF
       REISSUE APPLICATION FILED
       20010727
 UP - 2001-51
 1/1 CRXX - (C) CLAIMS/RRX
 AN - 3176221
 PN - 5,929,466 A 19990727 [US5929466]
 PA - Toshiba Corp JP
 PT - CE (Chemical Electrical)
 ACT - 20010727 REISSUE REQUESTED
       ISSUE DATE OF O.G.: 20011218
       REISSUE REQUEST NUMBER: 09/915710
       EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2815
       Reissue Patent Number:
 UP - 2001-51
 UACT- 2001-12-18
 1/1 PAST - (C) PAST
 AN - 200151-001653
 PN - 5929466 A [US5929466]
 DT - A (UTILITY)
 OG - 2001-12-18
 CO - REA
 ACT - REISSUE APPLICATION FILED
 SH - REISSUE APPLICATION FILED
 Search statement
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 Search statement
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 1 Patent Groups
 ** SS 2: Results 5
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Search statement

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PN - JP 7249795 A2 19950926 [JP07249795]
TI - SEMICONDUCTOR DEVICE
IN - OBA YASUO; HATANO GOKOU
PA - TOKYO SHIBAURA ELECTRIC CO
AP - JP 38157/94-A 19940309 [1994JP-0038157]
PR - JP 38157/94-A 19940309 [1994JP-0038157]
IC - H01L-033/00
2/5 INPADOC - (C) INPADOC
PN - JP 8186332 A2 19960716 [JP08186332]
TI - MANUFACTURE OF SEMICONDUCTOR ELEMENT
IN - HATANO GOKOU; OBA YASUO
PA - TOKYO SHIBAURA ELECTRIC CO
AP - JP 704/95-A 19950106 [1995JP-0000704]
PR - JP 704/95-A 19950106 [1995JP-0000704]
IC - H01S-003/18; H01L-021/205; H01L-033/00
3/5 INPADOC - (C) INPADOC
PN - US 5656832 A 19970812 [US5656832]
TI - SEMICONDUCTOR HETEROJUNCTION DEVICE WITH ALN BUFFER LAYER OF 3NM-10NM
     AVERAGE FILM THICKNESS
IN - OHBA YASUO [JP]; HATANO AKO [JP]
PA - TOKYO SHIBAURA ELECTRIC CO [JP]
AP - US 400865/95-A 19950308 [1995US-0400865]
   - JP 38157/94-A 19940309 [1994JP-0038157]
    - JP 704/95-A 19950106 [1995JP-0000704]
IC - H01L-029/205; H01L-027/15; H01S-003/19
1/1 LEGALI - (C) LEGSTAT
PN - US 5656832 [US5656832]
AP - US 400865/95 19950308 [1995US-0400865]
DT - US-P
ACTE- 19950308 US/AE-A
     APPLICATION DATA (PATENT)
     {US 400865/95 19950308 [1995US-0400865]}
   - 19950501 US/AS02
     ASSIGNMENT OF ASSIGNOR'S INTEREST
     KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-KU KAWASAKI-SHI,
     JAPAN * OHBA, YASUO : 19950405; HATANO, AKO : 19950405
   - 19970812 US/A
     PATENT
UP - 1999-19
4/5 INPADOC - (C) INPADOC
PN - US 5909040 A 19990601 [US5909040]
TI - SEMICONDUCTOR DEVICE INCLUDING QUATERNARY BUFFER LAYER WITH PINHOLES
IN - OHBA YASUO [JP]; HATANO AKO [JP]
   - TOKYO SHIBAURA ELECTRIC CO [JP]
AP - US 866056/97-A 19970530 [1997US-0866056]
   - US 866056/97-A 19970530 [1997US-0866056]
   - JP 38157/94-A 19940309 [1994JP-0038157]
   - JP 704/95-A 19950106 [1995JP-0000704]
   - US 400865/95-A2 19950308 [1995US-0400865]
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IC - H01L-033/00; H01L-031/0304

ASSIGNMENT OF ASSIGNOR'S INTEREST
KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-KU KAWASAKI-SHI,
JAPAN \* OHBA, YASUO : 19970521; HATANO, AKO : 19970521

- 19990601 US/A PATENT

UP - 2000-05

5/5 INPADOC - (C) INPADOC

PN - US 5929466 A 19990727 [US5929466]

TI - SEMICONDUCTOR DEVICE AND METHOD OF FABRICATING THE SAME

IN - OHBA YASUO [JP]; HATANO AKO [JP]
PA - TOKYO SHIBAURA ELECTRIC CO [JP]

AP - US 874299/97-A 19970613 [1997US-0874299] PR - US 874299/97-A 19970613 [1997US-0874299]

- JP 38157/94-A 19940309 [1994JP-0038157]

- JP 704/95-A 19950106 [1995JP-0000704]

- US 400865/95-A1 19950308 [1995US-0400865]

IC - H01L-033/00; H01L-031/0304; H01L-029/205

1/1 LEGALI - (C) LEGSTAT

PN - US 5929466 [US5929466]

AP - US 874299/97 19970613 [1997US-0874299]

DT - US-P

ACTE- 19970613 US/AE-A

APPLICATION DATA (PATENT)

{US 874299/97 19970613 [1997US-0874299]}

- 19990727 US/A

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- 20011218 US/RF

REISSUE APPLICATION FILED

20010727

UP - 2001-51

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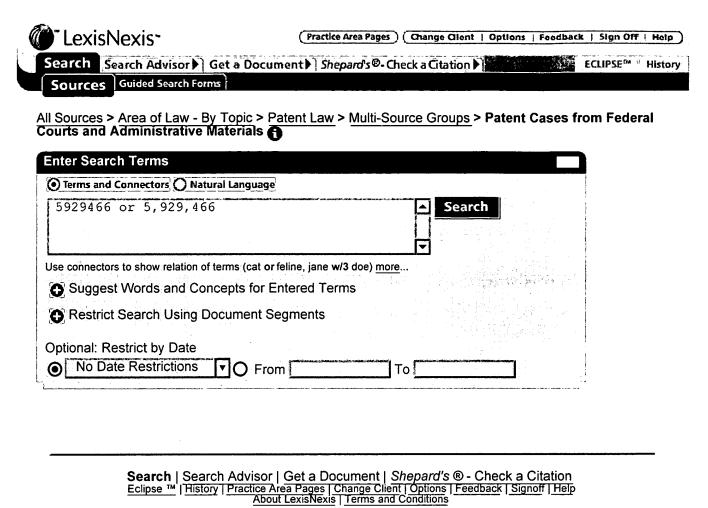
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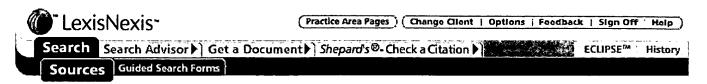
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